applying the propagation function to the second travelling wave current or to the first travelling wave current, respectively, wherein the first travelling wave differential current has a plurality of modes corresponding to respective ones of the plurality of conductors,

the method further comprising the step of:

determining a second travelling wave differential current by means of, based on the propagation function, adjusting at least one of magnitude and phase of the first travelling wave differential current such that all modes attain equal or increasingly equal modal characteristics.

2. The method according to claim **1**, further comprising step of:

based on the first travelling wave differential current, identifying a mode of the first travelling wave differential current having a largest propagation delay,

wherein the adjustment of at least one of magnitude and phase of the first travelling wave differential current such that all modes attain equal or increasingly equal modal characteristics is based on the propagation function for the identified mode.

3. The method according to claim **2**, wherein identifying a mode of the first travelling wave differential current mode having a largest propagation delay based on the first travelling wave differential current comprises the step of comparing eigenvalues associated with the modes of the first travelling wave differential current.

4. The method according to claim **1**, further comprising the step of adjusting at least one of magnitude and phase of the first travelling wave differential current such that all modes attain equal or increasingly equal arrival times at the first or second position and/or evolvement as a function of time.

5. The method according to claim **1**, further comprising the step of:

determining a third travelling wave differential current based on a combination of the first travelling wave differential current and the second travelling wave differential current.

6. The method according to claim **5**, wherein each of the first travelling wave differential current and the second travelling wave differential current comprises a plurality of elements, and wherein the third travelling wave differential current is determined by means of element-by-element multiplication of the first travelling wave differential current and the second travelling wave differential current.

7. The method according to claim **1**, further comprising the steps of:

on a condition that the first travelling wave current is estimated, determining a time when the first travelling wave current was determined;

on a condition that the second travelling wave current is estimated, determining a time when the second travelling wave current was determined;

determining a time-shift function based on the determined time and a propagation time period of a wave travelling from the first position to the second position, or vice versa,

wherein the estimation of the first travelling wave current or the second travelling wave current is carried out by applying the time-shift function to the propagation function so as to obtain a time-shifted propagation function and applying the time-shifted propagation function to the second travelling wave current or to the first travelling wave current, respectively.

8. The method according to claim **1**, further comprising the steps of:

sensing at least one first current and at least one first voltage, respectively, in the first position; and

sensing at least one second current and at least one second voltage, respectively, in the second position,

wherein the first travelling wave current is determined based on the at least one first current and the at least one first voltage, and the second travelling wave current is determined based on the at least one second current and the at least one second voltage.

9. The method according to claim **8**, wherein:

sensing of the at least one second current and the at least one second voltage, respectively, is performed subsequent to sensing the at least one first current and the at least one first voltage, respectively, or vice versa;

sensing of the at least one first current is performed simultaneously with sensing of the at least one first voltage; and/or

sensing of the at least one second current is performed simultaneously with sensing of the at least one second voltage.

10. The method according to claim **8**, further comprising the steps of:

on a condition that the first travelling wave current is estimated, determining a time when the first travelling wave current was determined;

on a condition that the second travelling wave current is estimated, determining a time when the second travelling wave current was determined;

determining a time-shift function based on the determined time and a propagation time period of a wave travelling from the first position to the second position, or vice versa,

wherein the estimation of the first travelling wave current or the second travelling wave current is carried out by applying the time-shift function to the propagation function so as to obtain a time-shifted propagation function and applying the time-shifted propagation function to the second travelling wave current or to the first travelling wave current, respectively, and

wherein the time when the first travelling wave current was determined is based on a time when the at least one first current and the at least one first voltage, respectively, was sensed and the time when the second travelling wave current was determined is based on a time when the at least one second current and the at least one second voltage, respectively, was sensed.

11. The method according to claim **1**, wherein the determination of the first travelling wave current and/or the second travelling wave current is based on an estimated surge admittance of the protected unit.

12. A processing module for use in a power system including a protected unit adapted to convey power from a first position in the protected unit to a second position, different from the first position, in the protected unit, or vice versa, via a plurality of conductors, wherein on a condition that a fault occurs in the protected unit at least one travelling wave is generated in the protected unit, wherein any distortion, attenuation and/or delay of the waveform of a wave due